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Vol. LXVIII **No. 10**

CONTENTS

Stahnke—A new species of scorpion 253

Arnaud—Salmacia in the Hawaiian Islands 259

Judd—Seasonal distribution of the black fly 263

Crabill—Identity of Parorya valida Cook 265

Review: Die Larvalsystematik der Blattwespen 267

Indexes and title page to Volume LXVIII 269

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ENTOMOLOGICAL NEWS

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A New Species of Scorpion of the Vejovidae: Paruroctonus [1] mesaensis

By HERBERT L. STAHNKE, Arizona State College, Tempe, Arizona

Living specimens of *Paruroctonus mesaensis* have uniformly very pale yellow cauda, appendages and carapace. The preabdomen appears somewhat darker—an effect, in the main, produced by the darkish internal organs showing through the more or less translucent, dorsal exoskeleton. Because of this yellowish color and the rather long, slender body, the layman has often mistaken this scorpion for *Centruroides sculpturatus* Ewing, the Southwests' lethal scorpion. It is obvious that the fancied resemblance is superficial since they belong to different families—*C. sculpturatus* to the Buthidae, *P. mesaensis* to the Vejovidae. In addition to this, the sting of *C. sculpturatus* has proven lethal to children in good health up to the age 16 years, while the most severe reaction observed from *P. mesaensis* has been rather pronounced, non-ecchymotic but very painful swelling at the site of the sting.

HOLOTYPE. An adult female, A.S. No. 693.6, secured March 13, 1947, under a small slab of broken concrete in the city dump northwest of Mesa, Arizona. Soil sandy, as in other areas from which this species has been taken. Holotype collected by Floyd Parrat and I. F. Nichols.

[1] Werner offered *Paruroctonus*, in *Klassen u. Ordnungen des Tierreichs* 8(2) : 283, Jan. 1934 for *N. N. Uroctonoides* Hoffmann, *Anales del Instituto de Biologica* 2(4) : 405, 1931 *nec* Chamberlin, *Mus. Sci. Bull. Brooklyn* 3(2) : 35–44, 1920. Mello-Leitão in *Ann. Acad. Bras. Sci. Rio* 6(2) : 75–82, June 30, 1934, offered *Hoffmanniellus*. Werner offer accepted because of prior date.

DESCRIPTION OF HOLOTYPE: Carapace. Uniform light yellow with crescent of dark pigment on median periphery of each eye. Some living specimens with entire median ocular tubercle permeated by black pigment; others with diffuse area of brown pigment in the interocular triangle. Condition of holotype seems most common. Interocular triangle sparsely covered with coarse granules which become larger and more abundant posteriad. Lateral eyes three, which form approximately an angle of 120 degrees. Median ocular tubercle prominent. Median groove begins as a broad depression on extreme anterior border, extends as a shallow groove over ocular tubercle and ends as narrow pit-like furrow and then bifurcates at right angles into two shallower depressions on most posteriad margin.

Preabdomen: All segments covered with fine granulations. Segments 1 and 2 with few large granules scattered on extreme posterior and lateral margins. Large granules scattered over posterior half of segments 3 through 6. Large granules of segment 7 primarily on ridges of four lateral keels. Intercarinal spaces with scattered large granules. Median keel as only indistinct vestige on segments 1 and 2, becoming larger on other segments as it travels posteriad but never becoming a prominent structure and extending across only posterior half of each segment with exception of 7th where its greatest prominence is at midway point. Large, lateral granules of last segment denticulate and located on lateral edge of shelf-like lateral protrusion. Ventral abdominal surface free of large granules except for extreme marginal, denticulate granules and large granules forming two lateral keels on 7th segment. Second pair of lateral keels represented distad by a few granules. Intercarinal spaces of 7th segment with very few large and small granules. Ventral surface of other segments appears very finely punctate rather than smooth and shiny. Stigma narrow-elongate. Sternum sides sub-parallel; with very deep median furrow in posterior half; anterior third with large granules. Genital operculum partially divided into two separate halves. Pectines with more than 16 subcircular, vaulted middle-lamellae; fulcra moderate sized, teeth: 23/23. Some with 21 pectinal teeth. Most proximal

tooth a distance equal to 9 teeth from point of attachment of pecten. Densely covered with short bristles on entire ventral surface except teeth.

Postabdomen: Very slender. All caudal segments longer than wide. Segment IV shorter than carapace: ratio 1.10. Segments I–IV ventrally quite hirsute with moderately long bristles.

Dorsal keels: Coarsely granular on segments I, II, and III; sub-denticulate granules on IV. Large rounded granules on segment V.

Superior lateral keels: Like dorsal keels but incomplete on segment V. Present on 0.4 of proximal end of segment and represented by moderate sized granules.

Median lateral keels: Coarsely granular on segment I; represented by 4 or 5 large granules at distal end of segment II, and by 3 large granules at distal end of segment III; lacking on segments IV and V.

Inferior lateral keels: Coarsely granular on segment I; prominent on segment II but not distinctly granular; granules definite on segment III and large well developed granules on segments IV and V.

Median ventral keels: Not prominent and without granules on segment I; distinct but smooth on II and III; with large granules on IV and on V represented by one distinct keel with large granules.

Intercarinal spaces: Few large granules on dorsal and dorsolateral regions of segment I through III, lacking on segment IV and sparsely represented on inferior surface of segment V.

Telson: Elongated, tear-drop in shape and smooth with few large bristles. Two large bristles located ventrally at base of aculeus. Lighter in color than other segments. Aculeus slightly more than ⅓ length of telson.

Chelicera: With (fig. 1) 5 more or less truncated, uniform-sized teeth on inferior border of movable finger. These teeth vary in number from 2 to 5, sometimes several may be united to form a single very wide tooth. Two reddish, tubercle-like protuberances on inferior border of fixed finger. Some with 3 such protuberances, which are sometimes denticulate.

Pedipalps: Chela: Hand broader than thick. All dorsal keels well developed and covered with moderately large granules. Lateral keels with more and larger granules. Inferior and median surface with many large granules. Cutting edges of both moveable and fixed fingers moderately scalloped with ridges of one fitting into valleys of other. Cutting edge of both fingers with six clusters of supernumerary teeth linearly arranged with large tooth separating each of the six clusters. Each large tooth flanked medially by large tooth except (on the movable finger) distad where there are two large flanking teeth (seven in all). Fixed finger has only five flanking large teeth plus one large flanking terminal tooth. Distance between median large teeth and lateral teeth increases progressively distad. A large bristle immediately posterior to each flanking large tooth except the two most distal ones.

Brachium: With distinct and granular anterior and posterior inferior margins. 13–14 trichobothria on posterior surface.

Humerus: With only anterior inferior margin distinct and granular. Inferior surface has proximally a cluster of 8–11 moderately large granules.

Walking legs: Long tarsal claws; well developed unguicular spine; exterior and interior pedal spurs. Single row of bristles on ventral median ridge of tarsus with two larger bristles at distal end of row forming a V and a cluster of small bristles at proximal end of row. A row of very long, stout bristles on exterior margin of protarsus and tibia of first three pair of legs.

ALLOTYPE. An adult male, A.S. No. 361.26, collected September 14, 1939 under board in city dump northwest of Mesa, Arizona, by H. L. Stahnke.

DESCRIPTION OF ALLOTYPE. Carapace: Color same as female. Many large granules in interocular triangle. Greater concentration of large granules posteriad. Few scattered large granules laterally. Many fine granules throughout. Lateral eyes, ocular tubercle, median groove and keels same as female.

Preabdomen: Granulations same as female. Median and four lateral keels somewhat more pronounced than in female. Intercarinal spaces, lateral large granules and ventral surface

like that of female except for intercarinal spaces on 7th which have numerous small and large granules. Sternum like that of female. Genital papillae well developed and protrude some distance from edge of genital operculum which is divided. Pectines with more than 20 subcircular, vaulted middle lamellae. Teeth: 32/32. Some with 39 pectinal teeth. Most proximal tooth a distance of about 6 teeth from point of attachment of pectines.

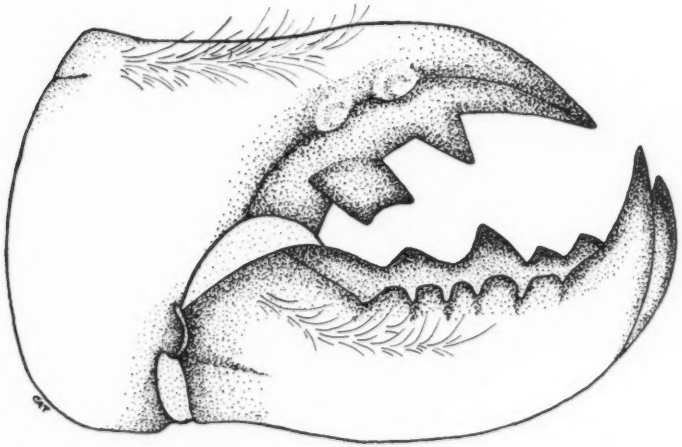


FIG. 1. Chelicera of *Paruroctonus mesaensis* n. sp. [C. Templeton, *del.*]

Postabdomen: General shape like female. All segments longer in proportion to width. Segment IV longer than carapace: ratio 0.85. Segments I, II, and III with keels like those of female and intercarinal spaces densely covered with fine granules and few isolated granules except on inferior surface. Segments IV and V keels same as on female with intercarinal spaces densely covered with fine granules. Telson similar to that of female.

Pedipalps: Chela: Hand not quite as broad as on female. Cutting edge of fixed and movable finger denticulated as in female but scallops are deeper, especially at proximal end. Keels

Paruroctonus mesaensis

Table of Measurements in mm., and Ratios

	Females			Males		
	Holotype	Paratypes		Allotype	Paratypes	
	No. 693.6	No. 1248	No. 1154	No. 361.26	No. 1177	No. 57-323
Total length	60.68	60.86	59.79	63.40	60.56	64.64
Carapace length	7.56	8.12	7.42	6.86	7.00	7.14
Carapace width	6.58	7.56	6.86	6.23	6.44	6.72
Mesosoma	15.35	12.70	13.35	13.00	11.70	14.80
Metasoma	37.77	40.04	39.02	43.54	41.86	42.70
*Ratios:						
CL/TL	0.13	0.13	0.12	0.11	0.12	0.11
CL/MtL	0.20	0.20	0.19	0.16	0.17	0.17
MtL/TL	0.62	0.66	0.65	0.69	0.69	0.66
PW/PT	1.33	1.27	1.30	1.24	1.25	1.32
CL/IVL	1.10	1.14	1.06	.85	.90	.88
CL/VL	0.87	0.88	0.83	0.68	0.72	0.73
IL/IW	1.21	1.24	1.27	1.42	1.38	1.37
Pecten teeth	23/23	24/25	23/23	32/32	32/32	38/39

* Abbreviations: CL = carapace length
TL = Total length
MtL = Metasoma length
VL = Length caudal segment V
IL = Length caudal segment I
IW = Width caudal segment I
IVL = Length caudal segment IV
PW = width of hand of chela
PT = thickness of hand of chela

Para-types	Sex	Date Collected	Locality	Collector
1248	female	8/27/52	Tempe, Ariz.	Kenneth Ziegler
1154	female	8/22/51	Tempe, Airz.	Klonda Bowers
1177	male	11/15/51	Tempe, Ariz.	H. L. Stahnke
57-233	male	4/30/57	Borrego Springs, California	Jim Elliott

and granulations on dorsal surface more pronounced than on female. Intercarinal spaces densely covered with fine granules. Brachium and humerus same as female except that large granules in medial area of posterior surface lacking. Brachium stouter than in female. Chelicera and walking legs similar to those of female.

P. mesaensis differs principally from *P. gracilior* (Hoffman) as follows:[2] *P. mesaensis* is uniformly light yellow whereas *P. gracilior* has a crescent-shaped spot in interocular triangle similar to *Hadrurus hirsutus*. Also, the dorsal plates of the abdomen show widespread dark spots on both sides of the middle line, which give a blackish tint to the plates. Pectinal teeth of *P. mesaensis* 32/32; *P. gracilior,* 26/28. The fourth caudal segment of the male *P. mesaensis* is considerably longer than carapace, while in *P. gracilior* this segment is a little shorter than carapace.

On *P. mesaensis* the teeth on the ventral surface of the movable finger truncated and uniform in size; *P. gracilior* has a large basal truncated tooth and 4 smaller teeth. Caudal keels more coarsely granular in general on *P. mesaensis* than on *P. gracilior*.

The Occurrence of Salmacia longipulvilli in the Hawaiian Islands (Diptera: Larvaevoridae)

By Paul H. Arnaud, Jr., Entomology Research Division, Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C.[1]

The parasitic fly *Salmacia longipulvilli* (Tothill) has not been recorded in the Hawaiian entomological literature, although it appears to be an immigrant species from America. It was present in the Hawaiian Islands as early as 1929. Since *Salmacia longipulvilli* is similar in size to *Chaetogaedia monticola* (Bigot), the former has apparently been confused with *monticola* and remained undetected in collections.

These two species may be separated on a readily visible structural character of the head: *S. longipulvilli* has the facial ridges bare (except for several bristles immediately above and in as-

[2] Hoffman described only the male of the species.

[1] I should like to thank J. L. Gressitt, H. J. Reinhard, C. W. Sabrosky, G. E. Shewell, Alan Stone, and P. W. Weber for their aid and suggestions in this study.

sociation with the vibrissae); while *C. monticola* has the facial ridges bristled on more than the lower half. *S. longipulvilli* also possesses an orange-yellow abdomen with black base and apex and a median, occasionally broken, black longitudinal stripe on the dorsum of the abdomen. Females of *longipulvilli* tend to have more black on the abdomen than the males, having a broader median black stripe and more of the fourth, as well as the fifth, tergites black above. *C. monticola* in contrast has a grayish abdomen, with only slight traces of orange-yellow on the sides, and with the fifth tergite mostly orange-yellow. Figures 1 to 5 illustrate the head, wing, and terminalia of the male of *Salmacia longipulvilli.*

An annotated bibliography, Hawaiian distributional data, and host data on *Salmacia longipulvilli* follow:

Salmacia longipulvilli (Tothill) 1924

1924. *Gonia longipulvilli,* Tothill, Canadian Ent., 56(8):198, (9): 211, 212. [p. 198, key, male; p. 211, original description, holotype male from Royal Oak, British Columbia and 12 male paratypes from Alberta, British Columbia, North Dakota, Idaho, California, Arizona, Mexico; p. 212, summary of distribution, also Colorado.]

1928. *Gonia longipulvilli,* West, *in:* Leonard, Cornell Univ., Agric. Exper. Sta., Mem. 101: 818. [Distribution: Ithaca, New York, Ap[ril]. This is probably a misidentification.]

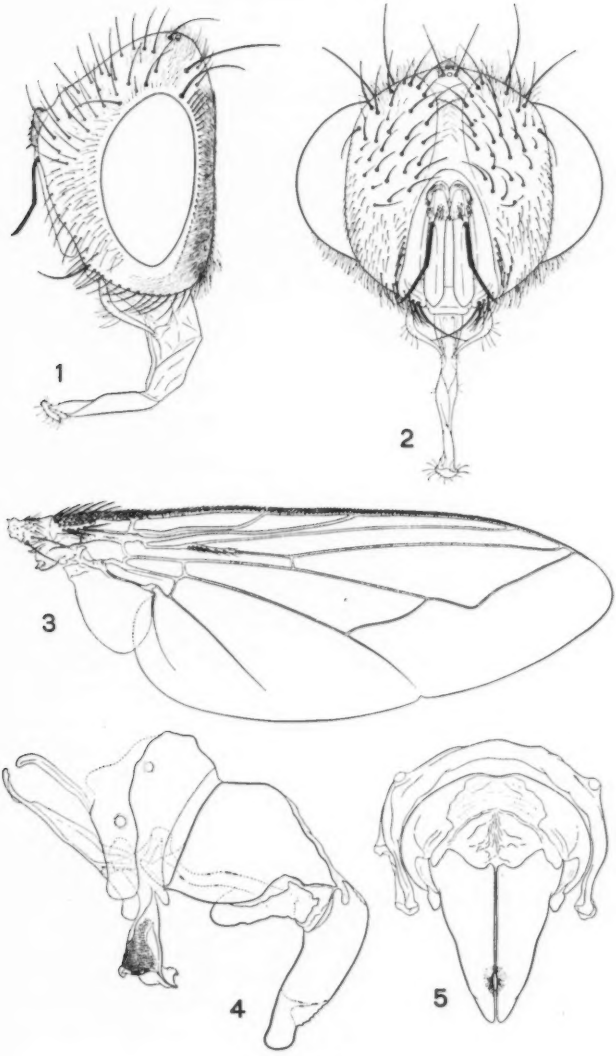
1933. *Gonia longipulvilli,* Rowe, Ent. News, 44(5): 126. [Distribution: Olympia, Washington.]

1940. *Gonia longipulvilli,* Morrison, Canadian Jour. Res., Sec. D, 18: 342, 354, figs. 15, 15a, 15b. [p. 342, key, male; p. 354, description of male terminalia; host *Agrotis orthogonia* in Saskatchewan.]

EXPLANATION OF FIGURES

Salmacia longipulvilli (Tothill). Male.

1. Head, lateral view. 2. Head, front view. 3. Right wing. 4. Terminalia, lateral view. 5. Terminalia, posterior view. Drawings by Mr. Kei Daishoji.



FIGS. 1–5.

(1943) 1944. *Gonia longipulvilli,* Brooks, Canadian Ent., 75 (12): 228, 229, 230. [p. 228, referred to capitata group, which is characterized and stated to be "late summer species."]
Type depository: Type No. 789, Canadian National Collection, Ottawa.

Hawaiian Distribution

The 47 specimens that I have examined have originated from the following localities:

Maui: 1 ♂, Waiakoa, 3,000 feet, VIII-1941, at light (E. M. Cooke, Jr.); 2 ♂♂, 1 ♀, Waiakoa, 3,000 feet, VIII-1941 (C. M. Cooke, Jr.); 1 ♀, Kula Pipe Line, 19-III-1932, 4,500–5,000 feet (O. Bryant); [in collection of Bernice P. Bishop Museum]; West slope Polipuli, 2,300, 2-III-47, Hawaii No. 2782 (K. L. Maehler) [collection U. S. N. M.].

Hawaii: 2 ♀♀, Upper Hamakua Ditch Trail, "10-2-1929" (O. H. Swezey); 2 ♂♂, 2 ♀♀, Humuula, 30-VII-35 (E. H. Bryan, Jr.); 1 ♂, Humuula, 3-VIII-35, Sophora (R. L. Usinger); 3 ♀♀ and 1 ♂, Keanakolu, Kaula Gulch, 29-X-1952, 7,000 feet (C. P. Hoyt); [in collection of Bernice P. Bishop Museum]; 18 ♂♂, 12 ♀♀, Waimea, 22-VI-49, collected at flowers *Foeniculum vulgare* L. (P. W. Weber) [in collections of the University of Hawaii, Bernice P. Bishop Museum, U. S. National Museum, Canadian National Collection, H. J. Reinhard, and the author].

Additional specimens are to be found in the Bernice P. Bishop Museum and, probably, in other collections in the Hawaiian Islands.

Host Data

Morrison (1940) has reported *Agrotis orthogonia* (Morrison) (family Phalaenidae) as a host of *longipulvilli* in Saskatchewan. In the collection of the United States National Museum there are now eight specimens labelled as paratypes [No. 28,300] of *longipulvilli* [Tothill stated there were six]. An interesting feature of five of these specimens, which originated from Tempe, Arizona, "10-8-17" (H. L. Dozier), is that they bear the labels as having been "Reared from *Feltia annexa,*" an important fact which was omitted by Tothill in reporting on the type series. The name *Feltia subterranea* (Fabricius) (family Phalaenidae) is the revised name for *Feltia annexa,* according to Dr. E. L. Todd.

LITERATURE CITED

BROOKS, A. R. (1943) 1944. Canadian Ent., 75(12): 219–236, figs. 1–13. [Date of publication: January 17, 1944.]

MORRISON, F. O. 1940. Canadian Jour. Res., Sec. D, 18: 336–362, figs. 1–22.

ROWE, J. A. 1933. Ent. News, 44(5): 122–126, fig.

TOTHILL, J. D. 1924. Canadian Ent., 56: (8): 196–200; (9): 206–212.

WEST, L. S. *in:* LEONARD, M. D. 1928. A list of the insects of New York. Cornell Univ., Agric. Expt. Sta., Mem. 101: 1–1121. [Family Tachinidae, pp. 807–821.]

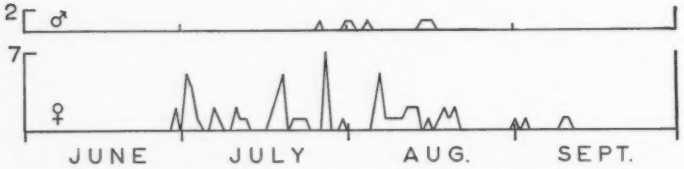
Studies of the Byron Bog in Southwestern Ontario. IV. Seasonal Distribution of the Black Fly, Simulium vittatum Zett. (Diptera: Simuliidae)

By W. W. JUDD, Department of Zoology, University of Western Ontario, London, Ontario

In the description of the Byron Bog (Judd, 1957) it was pointed out that one method of collecting insects in the bog was to make a circular sweep with an insect net, held at arm's length, through the tops of the bushes in the *Chamaedaphnetum calyculatae* association. The net used was one with a rim twelve inches in diameter and the radius of the circle over which the sweep was made was six feet. A single sweep was made each day from May 15 to November 15 in 1956 and all the insects collected each day were sorted and counted. Among the insects so collected were black flies which were all identified as *Simulium* (*Neosimulium*) *vittatum* Zetterstedt by Dr. D. M. Davies, McMaster University, Hamilton, Ontario. Three males and five females are deposited in the collections of McMaster University and all other specimens are deposited in the collection of the Department of Zoology, University of Western Ontario.

While the flies were in flight they were a considerable nuisance to anyone collecting in the bog, for they flew against the face, crawled into one's ears and nose and scuttled along the

crevices between the skin and clothing. At no time were they found to bite. Several authors who have investigated this species have concluded that *S. vittatum* does not bite humans at all or does so only occasionally (Davies, 1950; Davies and Peterson, 1956; Hocking and Pickering, 1954; Hocking and Richards, 1953; Twinn, 1936; Twinn *et al.*, 1948).



Seasonal distribution of males and females of *Simulium vittatum* Zett.

During the period June 29 to September 10 seventy-five flies, 7 ♂♂ (9%) and 68 ♀♀ (91%), were collected by sweeping, the maximum number caught on one day being 7 on July 27 (fig. 1). Males were caught between July 26 and August 16. The preponderance of females is in accord with the findings of Davies (1952) and Twinn *et al.* (1948) who captured more females than males in sweep collections, although a sex ratio of 1 : 1 was found by Davies (1950) for flies emerging into a cage set on a creek bed. Davies (1952), in reporting on a study of *S. vittatum* in Algonquin Park, records that few specimens were obtained by netting, with only a single male captured by that method. The period during which the flies were caught in the Byron Bog (June 29–September 10) is well within the period during which this species was found in flight and ovipositing (April to October) at Hamilton, Ontario, some ninety miles eastward from the Byron Bog (Davies and Peterson, 1956).

ACKNOWLEDGMENTS

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REFERENCES

DAVIES, D. M. 1950. Trans. Roy. Can. Inst., 28: 121–159.
——. 1952. Can. Jour. Zool., 30: 287–321.
DAVIES, D. M., and B. V. PETERSON. 1956. Can Jour. Zool., 34: 615–655.
HOCKING, B., and L. R. PICKERING. 1954. Can. Jour. Zool., 32: 99–119.
HOCKING, B., and W. R. RICHARDS. 1953. Bull. Ent. Res., 43: 237–257.
JUDD, W. W. 1957. Can. Ent., 89: 235–238.
TWINN, C. R. 1936. Can. Jour. Res., 14(D): 97–150.
TWINN, C. R., B. HOCKING, W. C. MCDUFFIE and H. F. CROSS. 1948. Can. Jour. Res., 26(D): 334–357.

A Note on the Identity of Parorya valida Cook (Chilopoda: Geophilomorpha: Oryidae)

By R. E. CRABILL, Jr., Division of Insects, United States National Museum

Of the major geophilomorph families, Oryidae seems the most poorly represented in America north of Mexico. Indeed, only the ubiquitous *Orphnaeus brevilabiatus* (Newport) has positively been reported within the United States, where it very likely was introduced with cargo from the tropics. Neither *brevilabiatus* nor any other oryid is known to be established here, which stands in striking contrast to the situation in the American tropics where a number of endemic genera and species occur.

For this reason Cook's discovery in 1896 of an endemic new genus, *Parorya*, from Texas or Louisiana seems of extraordinary interest. Unfortunately his new form was inadequately described in an obscure publication [1] and consequently has gone unnoticed by nearly everyone for well over half a century. Although the Count von Attems cited *Parorya* in his roster of oryid genera in 1926,[2] he was unable to include it in his accompanying key to genera. In addition, the generic and trivial names are conspicuously absent in his celebrated 1929 world monograph

[1] Brandtia, fasc. VII, p. 33, (1896).
[2] KÜKENTHAL U. KRUMBACH, Handbuch d. Zoologie, IV, p. 354, (1926).

of the order.[3] Thus he was aware of the existence of the name in the literature, but, confronted only with the vague and fragmentary original diagnosis, he could not place Cook's centipede with confidence within the oryid system.

Undiscovered for many years, the female holotype (U.S.N.M. Type Number 2363) recently was located in the myriapod collection of the United States National Museum. It is a specimen of the common western Mediterranean *Orya barbarica* (Gervais).[4]

All we know of this specimen's collection is that Schufelt captured it either in Texas or Louisiana, where it must have been introduced with produce from the Mediterranean, a possibility of which Cook made no mention.

Cook was well aware of its obvious similarity to the conspicuous and well-known *barbarica,* for his description is almost entirely concerned with postulated generic differences between the two. (In 1896 *barbarica* was the only known member of *Orya.*) He reported that in his specimen the apical article of the "genital palp," i.e., of the gonopod, is small but distinct, whereas that of *Orya* is rudimentary. Actually, Cook's specimen is practically identical in this feature with North African specimens of *barbarica.* He described the spiracles of *valida* as being much longer and narrower than those of *barbarica,* but I have found the proportions of the former to fall within the range of variability of the latter. His attempt to distinguish between the two on the basis of stigmopleurite shape is invalid for the same reason; the stigmopleurites of *valida* closely resemble those of older, rather than of young, *barbarica* specimens.

On the basis of the original description, perhaps his most compelling argument rests upon the relative size of the two species' pregenital sternites.[5] He found that this sternite in *barbarica* is pronounced, and described it as rudimentary in *valida.* Ac-

[3] Das Tierreich, Lief. 52, (1929).

[4] Since *valida,* 1896 = *barbarica,* 1835, and each is the genotype of its genus by monotypy, *Parorya* Cook, 1896, is an objective junior synonym of *Orya* Meinert, 1870.

[5] Attems', rather than Verhoeff's or Broelemann's, terminology is used. See Attems, 1929, p. 26, fig. 35, label *vpg.*

tually, the two plates are identical. Cook's specimen had simply contracted in alcohol, telescoping its rear somites and thereby largely concealing the pregenital sternite beneath the preceding ultimate pedal sternite.

Although Cook had not dissected the mouthparts, he surmised them to be the same in both forms: they are. In summary, I am entirely unable to prove Cook correct and the present disposition of *valida* incorrect. Including the complexities of the pleural sclerites, no apparent detail presents any convincing basis for considering *valida* as anything but an introduced, typical specimen of *Orya barbarica*.

Finally, it is worth mentioning that this seems to be the only report of the presence of this gigantic North African species in the United States.

Review

DIE LARVALSYSTEMATIK DER BLATTWESPEN (Tenthredinoidea und Megalodontoidea) by Herbert Lorenz and Manfred Kraus. Abhandlungen zur Larvalsystematik der Insekten, Nr. 1. PP. vi + 339; figs., 435. Akademie Verlag, Berlin, 1957. Price: paper bd., DM 38.

Compared with the first attempt at a larval classification of the sawflies (Yuasa, in Ill. Biol. Monogr., 1922), this is a more extensive work. It refers most often to Benson's classification of imagines, but for the Nematinae, and for comparisons, both Yuasa and Enslin are considered. There are pages on collecting and rearing, on biology, morphology, and coloration. The main part gives keys to the categories from superfamilies down to species, provides diagnoses and biological notes on 236 European species, and supplies a list of food plants. Recent classifications such as Benson's are largely confirmed, except for some genera in the Nematinae, and the tribes in certain subfamilies. Where difficulties exist, larval studies often suggest solutions; thus, the Dolerinae should remain a separate subfamily.

Such works as this are much needed, for although fine work has been done on some, notably the aquatic, larvae, it is appalling to think of how much remains to be done by the increasingly scarce systematists.—R. G. SCHMIEDER.

EXCHANGES

This column is intended only for wants and exchanges, not for advertisements of goods for sale or services rendered. Notices not exceeding three lines free to subscribers.

These notices are continued as long as our limited space will allow; the new ones are added at the end of the column, and, only when necessary those at the top (being longest in) are discontinued.

Conopidae of the World wanted. Will pay 10¢ to $1.00 for pinned and labelled specimens. S. Camras, 4407 N. Milwaukee Ave., Chicago 30, Illinois.

Anisoptera—Nearctic sp. wanted for exchange, espec. Ophiog., Arigom., Aeschna, Neurocor., Somatoc., Cordulia, Dorocor., Leucor. R. D. Cuyler, Dept. of Entomology, N. C. State College, Raleign, N. C.

Bembicini and Stizini (Hym., Sphec.) of New World wanted for revis. study. Will return upon request or at end of project. James E. Gillaspy, Dept. of Zoology, Univ. Texas, Austin 12, Texas.

Agapema galbina. Will exchange cocoons of this moth for nature books. E. Frizzell, Route 4, Box 96, San Benito, Texas.

Tenebrionidae of the World wanted, in exchange for insects of Argentina and neighboring countries. Horacio J. Molinari, Av. Lib. Gral. San Martin 55, Acassuso (Buenos Aires), Rep. Argentina.

Butterflies. Wish to exchange specimens for Japanese species. Please write to Ichiro Nakamura (Boy, age 16), 26 Aza-Nishiyama Obayashi Takarazuka-shi, Hyogo-Ken, Japan.

Phasmidae of nearctic area desired alive. Purchase or trade, drawing on large stock of major orders, worldwide. Dominick J. Pirone, Dept. Entomology, Cornell University, Ithaca, N. Y.

Melanotus (Elateridae). Revising Nearctic species; desire to see all available specimens. Will return at end of study. L. W. Quate, Department of Entomology, University of Nebraska, Lincoln, Nebr.

INDEX TO VOLUME LXVIII

(* Indicates new genera, names, etc.)

ALLEN, H. W. A Japanese weevil abundant in the Philadelphia area 169

ALEXANDER, C. P. James Speed Rogers, 1891–1955 85

ANANTHAKRISHNAN, T. N. Bamboosiella nov. gen. (Phlaeothripidae, Tubulifera) from India 65

ARNAUD, P. H. The occurrence of Salmacia longipuvilli in the Hawaiian Islands (Diptera: Larvaevoridae) 259

BALDUF, W. F. The weight of puparia of Rhagoletis basiola (O. S.) (Trypetidae: Diptera) 163

BECHTEL, R. C. and E. I. SCHLINGER. Biological observations on Ectemnius with particular reference to their Ogcodes prey (Hymenoptera: Sphecidae.—Diptera: Acroceridae) 225

BLICKLE, R. L. and J. G. CONKLIN. Distribution of Dermacentor variabilis (Say), the American dog tick, in New Hampshire 34
(See also under Morse)

BRADLEY, J. C. A new Brazilean species of Campsomeris (Hymenoptera: Scoliidae) 97

BROWN, F. M. Two early entomological collectors in Colorado 41

BROWN, W. L., JR. Distribution and variation of the ant Formica dakotensis Emery 165

BROWN, W. L., JR. and E. O. WILSON. A new parasitic ant of the genus Monomorium from Alabama, with a consideration of the status of genus Epixenus Emery .. 239

BURKS, B. D. A new Profenusa from the California plane tree (Hymenoptera: Tenthredinidae) 207

BUSCEMI, P. A. First record of Endochironomus subtendens (Townes) larval overwintering cocoons from North America (Diptera, Tendipedidae) 157

CHAMBERLIN, R. V. A new henicopid chilopod from Peru 126

CONKLIN, J. G. (See under Blickle, R. L.)
CRABILL, R. E., JR. A note on the identity of Parorya valida Cook (Chilopoda: Geophilomorpha: Oryidae) .. 265
DREISBACH, R. R. A new species in the genus Arachnoproctonus (Hymenoptera: Psammocharidae) with photomicrographs of the genitalia and subgenital plate 72
DVORAK, R. A character useful in separating Cafius (sg. Bryonomus Csy.) seminitens Horn and canescens Makl. (Coleoptera: Staphylinidae) 17
EVANS, H. E. Notes on Stictia new to the United States (Hymenoptera: Sphecidae: Bembecini) 76
FROST, S. W. More about Membracidae at lights 77
GRESSITT, J. L. Pacific Science Congress 79
Fire at the Budapest Museum 79
HEMMING, F. Announcement: The International Trust for Zoological Nomenclature 251
IGNOFFO, C. M. New records of mammal-lice associations 162
JUDD, W. W. Chalcidoid wasps (Eulophidae, Eurytomidae) reared from bullet gall caused by Disholcaspis mamma (Cresson) (Cynipidae) 193
Diptera (Calliphoridae, Heleidae and Chloropidae) collected from birds' nests at London, Ontario 32
Insects reared and collected from the pond snail, Lymnaea palustris Müll., at London, Ontario 69
Studies of the Byron Bog in southwestern Ontario. IV. Seasonal distribution of the black fly, Simulium vittatum Zett. (Diptera: Simuliidae) 263
KOLDERIE, M. Q. (See under Richards, A. G.)
KORMONDY, E. J. Review: A morphological study of a relic dragonfly Epiophlebia superstes Selys 53
KROMBEIN, K. V. The synonomy of two species of North American Chrysis, sens. str. (Hymenoptera, Chrysisidae) 191
LA RIVERS, I. A new Ambrysus from Mexico (Hemiptera, Naucoridae) 232
LEWIS, R. E. Known distribution of a bat flea, Nycteridopsylla chapini Jordan (Siphonaptera: Ischnopsyllidae) 48

LINSLEY, E. G. New longicorn bettles from Texas (Coleoptera, Cerambycidae) 159
MICHENER, C. D. Notes on the biology of a parasitic bee, Isepeolus viperinus (Hymenoptera, Anthophotinae) ... 141
MOCKFORD, E. L. Some Psocoptera from Tikal, Guatemala 197
MORSE, W. J. and R. L. BLICKLE. Additions and Corrections to the list of New Hampshire Trichoptera 127
MUESEBECK, C. F. W. New World Apanteles parasitic on Diatraea (Hymenoptera: Braconidae) 19
PECHUMAN, L. L. A Tabanus not previously known from the United States (Diptera: Tabanidae) 118
PHILLIPS, M. E. How much do you pay for your fun? .. 29
PORTER, C. C. A new subspecies of Megarhyssa atrata (Fabricius) (Hymenoptera: Ichneumonidae) 206
PRITCHARD, A. E. Review: Beiträge zur Systematik der Itonididae (= Cecidomyidae, Diptera) 26
REHN, J. A. G. On the removal of certain New World genera from the Decticinae to the Listroscelinae (Orthoptera: Tettigoniidae) 175
REINHARD, H. J. New American muscoid Diptera (Sarcophagidae, Tachinidae) 99
RICHARDS, A. G. and M. Q. KOLDERIE. Variation in weight, developmental rate, and hatchability of Oncopeltus eggs as a function of the mother's age 57
ROBACK, S. S. New records of Plecia (Diptera: Bibionidae) 247
Review: Evolution and classification of the mountain caddisflies 81
ROSS, H. H. New oak-inhabiting species of Erythroneuna from Illinois (Hemiptera, Cicadellidae) 183
SANDERSON, M. W. The status of the tortoise bettle Metriona ormondensis Blatchley 222
SCHLINGER, E. I. (See under Bechtel, R. C.)
SCHMIEDER, R. G. Hermann Weber (1899–1956) 49
Notes: New book on tropical American butterflies 80
Notes: Dancing bees at the equator and nocturnal dances 131

Review: A textbook of entomology 82
Review: Biology of the Heteroptera 138
Review: Die Larvalsystematik der Blattwespen 267
Review: General and applied entomology 174
SELANDER, R. B. A new Mexican Eupompha (Coleoptera, Meloidae) 123
SINHA, R. N. A study of oenocytes in Oryzaephilus mercator (Fovel) (Coleoptera, Cicujidiae) with phase microscopy) 119
STAHNKE, H. L. A new species of scorpion of the Vejovidae: Paruroctonus mesaensis 253
STALLINGS, D. B. and J. R. TURNER. Four new species of Megathymus (Lepidoptera, Rhopalocera, Megathymidae) 1
STANNARD, L. J. Review: Systematics of the Suborder Tubulifera 81
STROHECKER, H. F. Budapest Museum 134
SUBLETTE, J. E. The immature stages and female of Polypedilum (Polypedilum) obtusum Townes (Tendipedidae: Diptera) 37
TURNER, J. R. (See under Stallings, D. B.)
WALKER, E. M. Review: The neotropical species of the "Subgenus Aeschna" sensu Selyssi 1883 (Odonata) ... 135
WHITAKER, J. O. Trichobius (Streblidae) in West Virginia (Dipt.) 237
WILSON, E. O. (See under Brown, W. L.)
WOOLLEY, T. A. Redescriptions of Ewing's Oribatid mites (Acarina: Oribatei)
I. Families Zetorchestidae, Hermaniellidae 89
II. Family Carabodidae 113
III. Family Eremaeidae 147
IV. Family Archipteriidae 177
V. Families Belbidae and Opiidae 211

GENERAL SUBJECTS

Biology of Isepeolus 141
Books received 55, 223, 251
Budapest Museum fire ... 79, 134
Chalcids from bullet galls ... 193
Colorado, early collectors in .. 41
Crabronids and their prey ... 225
Dancing bees at the equator .. 131
Development of eggs of Oncopeltus 57
ENTOMOLOGICAL NEWS, financial needs 29
Grants at Oklahoma 80
Howard, Winslow J., collector 45
How much do you pay for your fun? 29
Japanese weevil in Philadelphia 169
Laboratory training courses .. 146
Meetings of Amer. Ent. Soc. 250
Nomenclature notice 40, 156, 190, 223, 246
Pacific Science Congress 79
Separates, Change of policy on 167
Snails, insects from 69
Wood, William S., collector .. 42
Zoogeography of Pacific insects 133

OBITUARY NOTICES

Rogers, James Speed 85
Weber, Hermann 49

PERSONALS

Bradley, J. C. 25
Brandt, W. W. 134
Gressitt, J. L. 134
Hardy, D. E. 134
Johannsen, O. A. 25
Kaszab, Z. 134
Klotz, A. B. 80
Munroe, E. G. 134
Sabrosky, C. W. 134
Szent-Ivany, J. J. H. 79

REVIEWS

Books received 55, 223, 251
Calvert: The neotropical species of the "Subgenus Aeschna" sensu Selysii 1883 (Odonata) 135
Cott: Systematics of the Suborder Tubulifera 81
Lindauer: Dancing bees at the equator and nocturnal dances 131
Little: General and applied entomology 174
Möhn: Beiträge zur Systematik der Itonididae (= Cecidomyidae, Diptera) 26
Natural enemies of insect pests (film) 111
Ross: Evolution and classification of the mountain caddisflies 81
A textbook of entomology 82

GEOGRAPHICAL DISTRIBUTION

Argentina: Hym. 21
Arizona: Arach. 253; Dipt. 105, 107; Lep. 2
Brazil: Hym. 24, 97
California: Hym. 209
District of Columbia: Hym. .. 22
Florida: Dipt. 111
Guatemala: Psocopt. 197
Illinois: Homop. 184–190
India: Thysanop. 66
Mexico: Col. 123; Dipt. 100, 103, 104, 109; Hemip. 235
New Mexico: Hym. 74; Lep. 9
Peru: Chilop. 126
Texas: Col. 159; Dipt. 102, 106; Lep. 6, 13

COLEOPTERA

Aleochara 69
Athryoglossa 70

atriplicis, Amannus* 160
bifasciatus, Pseudocneorhinus . 169
Bryonomus 17
canescens, Cafius 18
inflaticollis, Crossidius* 159
mercator, Oryzaephilus, oenocytes 119
Omaliinae 70
ormondensis, Metriona, key .. 223
ovipennis, Cymatodera 229
Philonthus 70
Pseudocneorhinus in Phila. area 174
purpurata, Metriona 223
quadrisignatus, Glischrochilus . 69
seminitens, Cafius 17
sericeus, Chlaenius 70
terminalis, Eupompha* 123
texanus, Heterachthes* 159

DIPTERA

alacris, Plecia 247
americana, Plecia 247
*Baromyia** 100
basiola, Rhagoletis, weights of puparia 163
corynorhini, Trichobius 237
curvistylata, Plecia 248
Diptera from bird's nests 32
euethes, Plagiomima* 104
eugonatus, Ogcodes 225
faceta, Plagiomima* 105
floridensis, Euceromasia* 109
fuscipes, Pherbellia 70
Hylemya 228
inconismus, Phytodes 99
Itonididae, review of book ... 26
labeosus, Parepalpus* 102
longipuvilli, Salmacia (ill.) in Hawaii, host data and bibliography 259
luteiceps, Oscinella 34
Megaselia sp. 228
melamypga, Sarcophaga 70
mitis, Baromyia** 101
nana, Pherbellia 70
nearctica, Plecia 248
noera, Phorocera* 109
obtusum, Polypedilum, stages of 37
pellecta, Phorocera* 106
plagiata, Plecia 248
quadrisetosus, Trichobius 237
rostellata, Plecia 248
rufithorax concava, Plecia ... 249
siala, Protocalliphora 32
sinuata, Sarcophaga 70
Sphaerophoria sp. 228
stabulans, Muscina 70
stolida, Phorocera* 107
texanus, Tabanua 76
travisi, Culicoides 33
vittatum, Simulium 263
vittiger, Tabanus 118

HEMIPTERA

drakei, Ambrysus* 232
fasciatus, Oncopeltus 57
Oncopeltus, physiology of eggs 57

HOMOPTERA

alicia, Erythroneura* 185
amethica, Erythroneura* 186
arpegia, Erythroneura* 188
ecana, Erythroneura* 184
lenta, Erythroneura 183
marilandicae, Erythroneura* .. 183
Membracidae taken at lights .. 77
metopia, Erythroneura* 185
mimica, Erythroneura* 190
protuma, Erythroneura* 188
trivittata, Erythroneura 186
tumida, Erythroneura 188

HYMENOPTERA

abditus, Apanteles* 23
advena, Monomorium 244

algiricum, Monomorium 245
auripes, Aphaereta 69
biroi, Monomorium 244
carolina, Stictia 76
Chalcids from bullet galls ... 193
Chrysis, new synonymy in ... 191
cinerea, Bembix 118
Crabronids, prey of 225
creticum, Monomorium 243
Dancing bees at equator 131
dakotensis, Formica 165
diatraeae, Apanteles 25
deplanatus, Apanteles* 24
Epixenus, status of 239
guineense, Monomorium 245
hesperium, Monomorium 243
impunctatus, Apanteles 20
kerri, Colletes, biology 141
*lineata * atrata, Megarhyssa* .. 206
mamma, Disholcaspis, chalcids from 193
mellifica, Apis 131
metoecus, Monomorium* 239
minator, Apanteles* 20
minimum, Monomorium 239
Monodontomerus 228
pattoni, Chrysis 191
phegus, Tetrastichus 193
Phygeduon 70
plantanae, Profenusa* 207
propria, Chrysis 191
querci-globuli, Eurytoma 193
signata, Stictia 76
spiniferus, Ectemnius, prey of . 229
Symphyta, classification of larvae (book) 267
tenebrica, Campsomeris* 97
variegatus, Arachnoproctonus* 72
viperinus, Isepeolus, biology .. 141
viperinus, Isepeolus, immature stages 141
vivida, Stictia 76
xanthopus, Apanteles 20
zizaniae, Apanteles* 22

LEPIDOPTERA

alliae, Megathymus* 1
carlsbadensis, Megathymus* .. 8
florenceae, Megathymus* 12
judithae, Megathymus* 5

ODONATA

Aeschnidae, book on neotropical 135
superstes, Epiophlebia, book on 53

ORTHOPTERA

Capnobotes 175
Decticinae, removal of genera to Listroscelinae 175
Neobarettia 175
Rhenia 175

SMALLER ORDERS

Anoplura on mammals 162
arbicola, Hoplopleura (Anoplura) 162
bicoloripes, Bamboosiella* (Anoplura) 65
cantralli, Ghesquierella* (Psocoptera) 204
chapini, Nycteridopsylla (Siphonaptera) 48
citellinus, Neohaematopinus (Anoplura) 162
hesperomydis, Hoplopleura (Anoplura) 162
laeviusculus, Neohaematopinus (Anoplura) 162
Lichenomima sp. (Psocoptera) 202
Metylophorus sp. (Psocoptera) 205
petenensis, Epipsocus* (Psocoptera) 200
pinnata, Fahrenholzia (Anoplura) 162
reducta, Fahrenholzia (Anoplura) 162
setoni, Haemodipsus (Anoplura) 162

*spinosa,** *Triplocania* (Psocoptera) 198
*splendida,** *Loneura* (Psocoptera) 197
*tikalus,** *Psocidus* (Psocoptera) 202
Trichoptera, book on 81
Trichoptera of New Hampshire, list of 127

NON-HEXOPODA

SCORPIONIDA

*mesaensis,** *Paruractonus* 253

ACARINA

Archipteriidae 177
Belbidae 211
boletorum, Lucoppia 152
borealis, Archipteria 179
brevitarsus, Eremaus 154
Carabodidae 113
curviseta, Lucoppia 149
equestris, Zetorchestes 90
Eremaeidae 147
flavus, Carabodes 113
globifer, Damaeus 215
Heterodamaeus 212
magnipilosa, Lucoppia 147
magnisetosus, Heterodamaeus . 212
michaeli, Damaeus 214
minuta, Oppia 218
occidentalis, Hermanniella ... 93
Opiidae 211, 218
oregonensis, Archipteria 178
Oribatei, Redescriptions of Ewing's 89, 113, 147, 211
robusta, Hermanniella 92
subniger, Cepheus 116
subnigra, Hermanniella 96
variabilis, Dermacentor 34

CHILOPODA

*mesaensis,** *Paruractonus* 253

ACARINA

andris, Lamyctes 127
barbarica, Orya 265
*cerronus,** *Lamyctes* 126
valida, Parorya 265

NON-ARTHROPODA

Bat, Streblidae on 237
Bats, Siphonaptera on 48
Birds, Diptera from nests of 32
Lymnaea palustris, insects from 69
Mammals (Rodents), lice of . 162

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THE NEOTROPICAL SPECIES OF THE 'SUBGENUS AESCHNA' SENSU SELYSII 1883 (Odonata)

By Philip P. Calvert

This paper presents an account of the Neotropical species referred by de Selys in 1883 to his subgenus *Aeschna* and of some species unknown to him. His subgenus is here divided into three genera, *Aeschna, Coryphaeschna,* and *Castoraeschna, Aeshna* in its turn being subdivided into the subgenera *Aeschna, Hesperaeschna, Rhionaeschna, Schizuraeschna, Marmaraeschna* and *Neureclipa.* These five subgenera include 2, 15, 1, 3, 4 and 5 species and subspecies respectively. *Coryphaeschna* embraces 9 species and subspecies, *Castoraeschna* 5. Larvae of 2 species of *Hesperaeschna,* 1 species of *Schizuraeschna,* 1 species of *Neureclipa* and 6 species of *Coryphaeschna* are described and figured. Generalities are discussed under the headings: Relationships of the Neotropical Aeshnas to the North American fossils; Relations of the South American Aeshnas to the Palaearctic and Australian species; The geological age and geographical distribution of the ancestors of the Odonata and of the Mammalia; Relations of the Neotropical Aeshnas to each other; The seasonal distribution of the Neotropical species of Aeshna. Forty plates in black and white illustrate the structural and colorational features of the adults, seven those of the larvae. Nineteen tables show the variations in size and in venation of the adults. Six maps show the geographic distribution of all the species concerned. There is an alphabetical index of species, subgenera, genera, authors quoted, and topics.

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